Electronic Version

Stylesheet Version v1.1.1

Claims

[c1] 1. Automobile management system using two batteries comprising a primary battery (B1) designed to power a primary service network (1) connected to one of its terminals (2), to which a generator (G) is also connected, a second battery (B2) designed to power a secondary network (3) essentially assigned to start-up functions and a BCO2 switch managed by a control unit or module (5) which, depending on the status of the charges of both batteries (B1) and (B2) and the charge demands of the mentioned networks (1) and (3), enables current flow between the two networks (1) and (3) in any direction, its characterized by the use of a unidirectional current flow device (4) that can bridge permanently the aforementioned BCO2 switch located between the two networks (1) and (3) and respectively powered by the mentioned batteries (B1) and (B2), whose device (4) provides current flow towards the start-up battery (B2) smaller than the current flow through the BCO2 switch, when it is closed, and also smaller than the current from generator (G) to battery (B1).

[c2] 2. System, according to claim 1, characterized because

said control unit (5) includes means to detect the condition status of both batteries (SOH).

[c3] 3. System, according to claim 1, characterized because said unidirectional flow device (5) connected between the two networks (1) and (3) is a power barrier diode.

[c4] 4. System, according to claim 2, characterized because the control module (5) controlling the connection / disconnection of the mentioned BCO switch, includes a microcontroller, a condition status sensor (SOH) and a charge status sensor (SOC).

[c5] 5. System, according to claim 1, characterized because the mentioned controllable switch that connects the battery (B1) and the network (1) with the battery (B2) and network (3) is a switch with BCO (Battery Cut Off) disconnection functions from the battery (B1).

[c6] 6. Management method of a car with two batteries, which comprises a first battery (B1) designed to power a first service network (1) connected to one of its terminals (2), to which a generator (G) is also connected, a second battery (B2) designed to power a second network (3) essentially assigned to start-up functions and a BCO2 switch managed by a control unit or module (5) which depending on the status of the charges of both batteries

(B1) and (B2) and the charge demands C_1 and C_2 of the mentioned networks (1) and (3), enables current flow between the two networks (1) and (3) in any direction, characterized by:

a)performing a permanent monitoring of the SOC of batteries (B1) and (B2) and the charge demands of C_1 and C_2 and provide an actuation on the mentioned switch BCO2, allowing the connection of one or both batteries B1 and B2 to both networks (1) and (3) with energy transfer between them; and

b)providing permanent unidirectional current flow from network (1) containing battery B1 to network (2), which includes battery B2 with a current flow smaller than the one circulating through the mentioned BCO2 switch, when it is closed, and also smaller than the feeding current to battery (B1) from generator (G).

[c7] 7. Method, according to claim 6, characterized because the monitoring of the charge status SOC of the a) stage, is complemented with the monitoring of the condition status of the battery.

[c8] 8. Method, according to claim 6, characterized because said b) stage for providing a permanent unidirectional current flow from network (1) to network (2) is made across a unidirectional current flow device such as a power diode (4).